

UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Caroline Heiligenmann et al.
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Group Art Unit: 1714
Examiner: Eric Wayne Golightly
Title: DISHWASHER USING OZONE

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APPEAL BRIEF

Pursuant to 37 CFR 1.192, Appellants hereby file an appeal brief in the above-identified application. This Appeal Brief is accompanied by the requisite fee set forth in 37 CFR 1.17(f).

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(1) REAL PARTY IN INTEREST

The real party in interest is BSH Bosch und Siemens Hausgeräte GmbH.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) STATUS OF CLAIMS

Claims 21-40 are pending in the application. Claims 31-39 currently stand as withdrawn. Claims 1-20 were canceled in the June 20, 2006 Preliminary Amendment. Rejected claims 21 - 30 and 40 are the basis for this appeal.

(4) STATUS OF AMENDMENTS

The pending claims identified in the Claims Appendix correspond to the claims entered following the submission of the Amendment on September 1, 2010.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention as recited in independent claim 21 relates to a dishwasher 14 comprising a washing container 1, devices for applying rinsing liquor to items to be washed in the washing

container 11, and one or more devices 7/12 for generating a gas having an oxidising effect that is employed in a wash program (page 11, lines 19-23). In the invention, the gas having the oxidising effect is provided to the washing container during the wash program by at least one of adding the gas to the rinsing liquor, adding the gas to raw water and adding the gas into an interior of the washing container for use for cleaning and disinfection. (page 7, lines 25-32) This has the advantage of reducing the consumption of the amount of water required during a wash cycle. Oxygenating gas, such as ozone, is a strong oxidizing agent that has properties such as deodorizing, sterilizing and oxidation of organic substances. Yet, in the related art, while ozone has been applied for purposes such as sterilization after a wash cycle, it has not been incorporated into the wash cycle itself as in the present invention.

The invention as recited in independent claim 40 includes a dishwasher comprising a washing container and devices for applying rinsing liquor to the items to be washed in the washing container, the washing container being operable to receive therein ozone-enriched mist at least for cleaning items to be washed (page 11, lines 5-13).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(a) Whether claims 21-24, 27, 28, 30 and 40 are anticipated under 35 U.S.C. § 102(b) as by JP 10-014844.

(b) Whether claims 21-23, 25, 28 and 30 are unpatentable under 35 U.S.C. § 103(a) over Ono (U.S. Patent No. 5,172,572) in view of JP 2003-144372.

(c) Whether claims 21-24 and 28-30 are unpatentable under 35 U.S.C. § 103(a) over Ono in view of JP 11-137882.

(d) Whether claim 26 is unpatentable under 35 U.S.C. § 103(a) over Ono in view of JP 11-137882 in further view of Veeder et al. (U.S. Patent No. 5,863,031).

(7) ARGUMENT

(a) Claims 21-24, 27, 28, 30 and 40 are NOT anticipated under 35 U.S.C. § 102(b) as by JP 10-014844.

The grounds of rejection, in view of the claimed features of independent claim 21, allege that JP '844 teaches a device for washing and disinfecting dish and other tableware (citing the title of the document) comprising a washing container (citing Figure 1, item 2), devices for applying rinsing liquor to the items to be washed in the washing container (citing Figure 1, item 7), and a wash program.

In the March 31, 2010 Amendment, Appellants respectfully submitted that JP '844 relates to a dishwasher focused on providing lower cost and shorter wash times during the disinfection/sterilization process. In JP '844, the washing mode is the first process and is

disclosed as only using water and/or detergent. JP '844 suggests the use of ozone only for a disinfection mode where ozone gas and water are brought into contact with each other in a gas-liquid mixing part 51 and scattered in the chamber through ozone atomizer nozzles 63. JP '844 discusses in paragraphs [0002] and [0009] that dishwashers use high heat to eliminate bacteria present in the utensils after washing them. That is, for a sterilization process. JP '844 suggests that rather than use high heat, that the sterilization process (after the wash cycle) be done using methods similar to those employed for sterilizing medical devices. Accordingly, Appellants respectfully submitted that JP '844 does not disclose the claimed feature of one or more devices for generating a gas having an oxidizing effect that is employed in a wash program. Rather, JP '844 teaches use of gases in the sterilization process similar to the art discussed in the present specification.

In the Advisory Action as well as the Response to Arguments in the Final Office Action, the grounds of rejection state that “a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.” Appellants respectfully submit that JP '844 does not teach “one or more devices for generating a gas having an oxidising effect that is employed in a wash program” since its structure uses ozone only for a disinfection mode where ozone gas and water are brought into contact with each other in a gas-liquid mixing part 51 and scattered in the chamber through ozone atomizer nozzles 63. Further, JP '844 teaches away from

this structure as it relates to a dishwasher focused on providing lower cost and shorter wash times.

With respect to claim 22, the grounds of rejection state that the gas having an oxidizing effect can be applied to the items to be washed in cooperation with mist in the interior of the washing container. Appellants note that JP '844 uses a mist during a sterilization process and not a wash process. As such, Appellants respectfully submit that claim 22 is allowable for its dependence on claim 21 as well as its individual mist features during the washing process. Likewise with the nebulizer of claim 23. Further, all the dependent claims are allowable at least based on their dependence on claim 21.

With respect to independent claim 40, Appellants note that it recites the feature of “the washing container being operable to receive therein ozone-enriched mist at least for cleaning items to be washed.” Thus, again, since JP '844 does not disclose or suggest the use of ozone during a wash process, Appellants respectfully submit that claim 40 is allowable.

(b) Claims 21-23, 25, 28 and 30 are NOT unpatentable under 35 U.S.C. § 103(a) over Ono (U.S. Patent No. 5,172,572) in view of JP 2003-144372.

Ono relates to a dish washing machine or a washing machine that is operated under washing conditions that assess whether the detergent has been properly changed in accordance with the degree of contamination. As such, other than disclosing the general elements of a dishwasher and a washing cycle, Appellants respectfully submit that Ono is not relevant to the problem solved by the present invention. Indeed, the grounds of rejection acknowledge that Ono

does not disclose or suggest a washing container being operable to receive therein a gas having an oxidizing effect that has been added to the rinsing liquor or the raw water and/or otherwise added into the interior of the washing container. However, the grounds of rejection state that JP 2003-144372 teaches a dishwasher comprising a washing container (citing Figure 10, item 2) being operable to receive therein a gas having oxidizing effect (citing the Abstract) added into the interior of the washing container for use for a partial program step having cleaning effect, so that the gas can at least be used for cleaning and disinfection (citing Figure 10 and the Abstract). As such, the grounds of rejection allege that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dishwasher of Ono by having the washing container being operable to receive therein a gas having an oxidizing effect so that the gas can at least be used for cleaning and disinfection as motivated by JP 2003-144372 to sterilize and deodorize dishes.

Appellants respectfully traverse this rejection. As argued in the March 31, 2010 Amendment, JP '372 discloses a dishwasher that uses ozone rather than high temperature for sterilizing its dishes. As discussed in paragraph [0006] of JP '372, its purpose is to sterilize food utensils without using hot water. Paragraph [0009] of JP '372 states that in its invention, since ozone has a strong oxidizing power, if ozone is supplied in a washing warehouse, after washing and it contacts food utensils, it will annihilate the various saprophytic bacteria adhering to food utensils. Thus, JP '372 does not teach using ozone in a wash cycle as in the present invention. Accordingly, Appellants respectfully submit that the claims distinguish over the combination of Ono and JP '372.

The Response to Arguments in the Final Office Action note that in response to Appellants' argument that Ono and JP '372 do not teach using gas in the washing program/process, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. As Appellants have argued above, neither reference teaches structure for using ozone in a wash cycle.

(c) and (d) Claims 21-24 and 28-30 are NOT unpatentable under 35 U.S.C. § 103(a) over Ono in view of JP 11-137882, and claim 26 is NOT unpatentable under 35 U.S.C. § 103(a) over Ono in view of JP 11-137882 in further view of Veeder et al. (U.S. Patent No. 5,863,031).

Claims 21-24 and 28-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ono in view of JP 11-137882. Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ono in view of JP 11-137882 in further view of Veeder et al. (U.S. Patent No. 5,863,031). As discussed above, the grounds of rejection in the Final Office Action acknowledge that Ono does not disclose or suggest a washing container being operable to receive therein a gas having an oxidizing effect that has been added to the rinsing liquor or the raw water and/or otherwise added into the interior of the washing container. Yet, in the rejection, the grounds of rejection allege that JP 11-137882 teaches a dishwasher comprising a washing container (citing Figure 7, item 51) being operable to receive therein a gas having an oxidizing effect added into the interior of the washing container. The grounds of rejection further state that it would have been obvious to one of ordinary skill in the art at the time the invention was made

to modify the dishwasher of Ono by having the washing container being operable to receive therein a gas having an oxidizing effect added into the interior of the washing container as motivated by JP 11-137882 to reduce COD (Chemical Oxygen Demand) and BOD (Biochemical Oxygen Demand) in drain water.

Appellants respectfully traverse this rejection. Appellants note that JP '882 clearly states in its Abstract and Problem To Be Solved, its purpose is to enable COD and BOD of home washer waste water to be reduced and purified to drain out without affecting the washing efficiency, by equipping a control means provided with a process to dissolve ozone from an ozone generating mechanism into washing water after the completion of a washing process using a detergent. Thus, JP '882 does not disclose the ozone wash feature of the present invention and actually teaches away from the invention.

The grounds of rejection in the Final Office Action note that in response to Appellants' argument that Ono and JP '882 do not teach using gas in the washing program/process, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. As Appellants have argued above, neither reference teaches structure for using ozone in a wash cycle.

Further in the Response to Arguments, the grounds of rejection state that since Ono does not criticize, discredit, or otherwise discourage the adding of a device for generating a gas having an oxidizing effect as mentioned in JP '882, JP '882 does not teach away.

Appellants respectfully submit that notwithstanding the standard applied in the grounds of rejection that, for example, MPEP § 2143.03(VI) states that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." Accordingly, where cited art teaches away from a claimed feature, the cited art is not available for the purposes of an obviousness rejection. In the instant case, JP '882 not only fails to teach or suggest the ozone wash feature, but further teaches away from the use thereof for the reasons discussed above. Because JP '882 teaches away from an ozone wash feature, one of ordinary skill in the art would not modify One to incorporate certain features of JP '882 in an effort to arrive at the claimed invention. Accordingly, Appellants respectfully submit that the rejection is improper and respectfully requests that the rejection be withdrawn.

Appellants also traverse the statement provided in the grounds of rejection that "since all the structures are found in the combined prior art, it is fully capable of performing the functions as recited in claims 21-22 and 24". Appellants note in since neither reference discloses use of ozone during a wash process, that the grounds of rejection's conclusion of obviousness appears to be based on improper hindsight reasoning in view of Applicant's own disclosure.

(8) CONCLUSION

In view of the foregoing discussion, Appellants respectfully request reversal of the Examiner's rejections.

Respectfully submitted,

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CLAIMS APPENDIX

1 – 20. (Canceled)

21. (Rejected) A dishwasher comprising a washing container, devices for applying rinsing liquor to items to be washed in the washing container, and one or more devices for generating a gas having an oxidising effect that is employed in a wash program, wherein the gas having the oxidising effect is provided to the washing container during the wash program by at least one of adding the gas to the rinsing liquor, adding the gas to raw water and adding the gas into an interior of the washing container for use for cleaning and disinfection.
22. (Rejected) The dishwasher according to claim 21, wherein the gas having an oxidising effect can be applied to the items to be washed in cooperation with mist in the interior of the washing container.
23. (Rejected) The dishwasher according to claim 22, wherein the mist can be produced from the rinsing liquid or the raw water by a nebulising device the nebulising device including at least one of an ultrasound nebuliser and a nebulising nozzle.
24. (Rejected) The dishwasher according to claim 23, wherein the gas having an oxidising effect is already added to the rinsing liquor or the raw water which is supplied to the nebulising device.
25. (Rejected) The dishwasher according to claim 23, wherein no gas having an oxidising effect is already added to the rinsing liquor or the raw water which is supplied to the

nebulising device and the gas having an oxidising effect is added directly to the interior of the washing container.

26. (Rejected) The dishwasher according to claim 21, wherein the gas having an oxidising effect is added to the rinsing liquor for solution and reaction, using a porous membrane in the rinsing liquor at the bottom of the washing container.
27. (Rejected) The dishwasher according to claim 21, wherein the gas having an oxidising effect is added to the rinsing liquor for solution and reaction using a water jet diffuser for fine distribution of the gas.
28. (Rejected) The dishwasher according to claim 21, wherein a water jet pump is disposed in a raw water pipe or in a circulating pipe for acting upon the devices for applying rinsing liquor to the items to be washed, wherein only a portion of the raw water or the rinsing liquor is passed to a branch.
29. (Rejected) The dishwasher according to claim 21, wherein the gas having an oxidising effect is added to the rinsing liquor or the raw water in at least one of a rinsing liquor reservoir and a heat exchanger for disinfection, to prevent growth of bacteria in the at least one of a rinsing liquor reservoir and a heat exchanger.
30. (Rejected) The dishwasher according to claim 21, wherein the gas having an oxidising effect is ozone which is produced in an ozone generator.
31. (Withdrawn) A method for using a gas having an oxidising effect in a dishwasher having at least one wash program comprising partial program steps e.g. "pre-wash", "clean", "intermediate rinse" and "clear rinse", characterised in that a gas having an oxidising effect

is added to the rinsing liquor or the raw water and/or into the interior of the washing container for use for a partial program step having a cleaning effect, e.g. "clean" so that the gas can at least be used for cleaning and disinfection.

32. (Withdrawn) The method according to claim 31, wherein the gas having an oxidising effect can be applied to the items to be washed in cooperation with mist in the interior of the washing container.
33. (Withdrawn) The method according to claim 32, wherein the mist can be produced from rinsing liquid or raw water by a nebulising device, e.g. an ultrasonic nebuliser or a nebulising nozzle.
34. (Withdrawn) The method according to claim 33, wherein gas having an oxidising effect is already added to the rinsing liquor or the raw water which is supplied to the nebulising device.
35. (Withdrawn) The method according to claim 33, wherein no gas having an oxidising effect is already added to the rinsing liquor or the raw water which is supplied to the nebulising device and the gas having an oxidising effect is added directly to the washing container.
36. (Withdrawn) The method according to claim 31, wherein the gas having an oxidising effect is added to the rinsing liquor for solution and reaction, using a porous membrane in the rinsing liquor, preferably at the bottom of the washing container.

37. (Withdrawn) The method according to claim 31, wherein the gas having an oxidising effect is added to the rinsing liquor for solution and reaction using a water jet pump with a diffuser for fine distribution of the gas.
38. (Withdrawn) The method according to claim 31, wherein the surface tension of the rinsing liquor is lowered by adding tensides to the rinsing liquor and the effect of the ultrasonic nebuliser is thereby enhanced.
39. (Withdrawn) The method according to claim 31, wherein the gas having an oxidising effect is ozone, which is produced in an ozone generator.
40. (Rejected) A dishwasher comprising a washing container and devices for applying rinsing liquor to the items to be washed in the washing container, the washing container being operable to receive therein ozone-enriched mist at least for cleaning items to be washed.

EVIDENCE APPENDIX

None

RELATED APPEALS APPENDIX

None